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ICS 55.120

DRAFT EAST AFRICAN STANDARD

Packaging — Flexible laminate tubes — Test methods to assess the strength of the side seam

EAST AFRICAN COMMUNITY

Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee(EASC) mandated to develop and issue East African Standards(EAS).The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 066, *Packaging*.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

During the preparation of this Standard, reference was made to the following document:

EN 15387, *Packaging — Flexible laminate tubes — Test methods to assessthe strength of the side seam*

Acknowledgment is hereby made for the assistance derived from this source.

Packaging — Flexible laminate tubes — Test methods to assess the strength of the side seam

1 Scope

This Draft East African Standard specifies methods for the assessment of the strength of the side seam of flexiblelaminate tubes.It is applicable to flexible laminate tubes used for packing pharmaceutical, cosmetic, hygiene, food and otherhousehold products

2 Normative reference

There are no normative references in this document

3 Principle

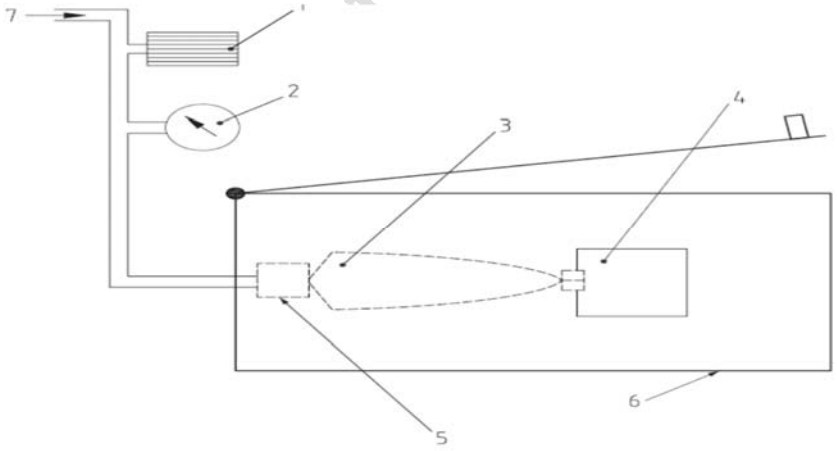
The burst test and the overlap test serve to assess the strength of the side seam. These tests are complementary. The burst test is used to measure whether the tube can withstand a defined air pressure. In addition the overlap test gives information about possible reasons for an insufficient strength of the overlap of the laminate at the side seam.

4 Test equipment for burst test

4.1 Compressed air system

Air compressor with an initial minimum pressure of 2 bar equipped with an air regulator allowing a constant and stable pressure.

4.2 Test device



Key

1 Valve

2 Pressure gauge

3 Tube

4 Clamp

5 Adaptor for thread

6 Protective box

7 Compressed air

Figure 1 — Burst test principle

4 Test operation

4.1 Burst test

4.1.1 Place the tube in the clamp (side seam centred), close one end of the tube and introduce the air from the other end of the tube.

4.1.2 For tubes with a diameter less than or equal to 40 mm apply a pressure of 2 bar for 10 s. For tubes with a diameter larger than 40 mm apply a pressure of 1.8 bar for 10 s.

4.1.3 The tube shall not burst in the overlap area or the side seam during the 10 s that the pressure is applied. If the tube bursts in any other area than the side seam or the overlap or if the tube does not burst at all, it meets the specifications.

4.1.4 Below 250 µm laminate thickness the test shall be subject to a mutual agreement between customer and supplier.

4.2 Overlap test

4.2.1 An appropriate measure shall be taken to make the inner layer visible. If the inner layer is not visible, samples shall be prepared by using an appropriate contrasting agent.

4.2.2 Cut across-section of the tube approximately10 mm from its open end.

a) if the tube is an ethylene vinyl alcohol (EVOH) barrier laminate, stain the section with a contrasting agent (e.g .iodine solution of 2.5 grams iodine, 2.5 grams potassium iodide, 15 grams distilled water, 80 grams ethanol).This will turn an EVOH barrier layer dark brown or black within approximately one minute and enable it to be seen easily under the magnifying device;

b) if the tube is an aluminium barrier laminate, no additional sample preparation is required;

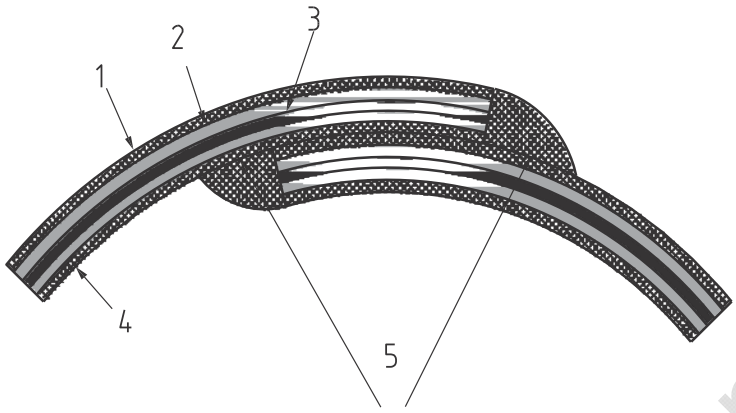
c) other plastic or metal laminates will require careful examination to allow correct measurement of the overlap.

4.2.3 Under the magnifying device the sideseam will show an overlap of aluminium or a blackline with polymer flow around the weld.

4.2.4 Take the reading in mm from the graticule.

4.2.5 The overlap shall be equal to or larger than 1mm.

4.2.6 The overlap test does not apply to laminate tubes where the tube wall is joined edge to edge.



Key

1 external layer

2 adhesive

3 barrier

4 inner layer

5 overlap

Figure 2 — Tested side seam

If laminate structures without an aluminium or EVOH barrier are used, a suitable test procedure should be mutually agreed upon between customer and supplier.

5 Test report

If not otherwise agreed between supplier and customer the test report shall contain the following information:

a) reference to this East African Standard and – if necessary – a specification for the method of sampling and acceptance of the batch;

b) the complete identification of the batch and of the tubes checked;

c) the number of tubes checked;

d) the number of defects;

e) the test result;

f) all factors which could have affected the results or all operating details not specified in this standard;

g) date, place of test and name of tester.

